

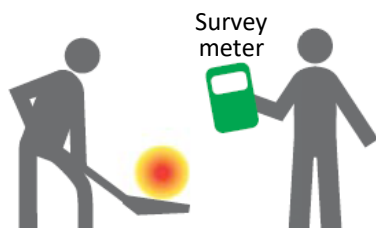
# Reduction of Radiation Doses

Radioactive materials released into the air due to the accident at Tokyo Electric Power Company (TEPCO)'s Fukushima Daiichi NPS fell onto the ground with rain, etc. and adhered to soil, vegetation, and buildings in people's living environment. Soil and vegetation, etc. thus contaminated are being removed through decontamination work. Removed soil and vegetation, etc. are shielded to prevent them from affecting the surroundings, thereby reducing radiation doses people receive from the environment.

## Methods of reducing radiation doses

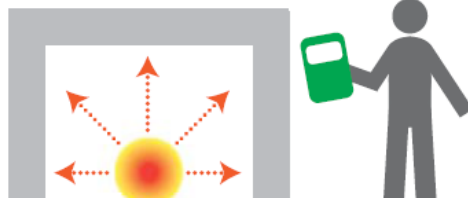
### Remove

e.g.) Strip topsoil; Remove branches and leaves; Remove fallen leaves; Wash off contamination, etc.



### Shield

e.g.) Enclose contaminated items with soil or concrete; Replace topsoil with subsoil, etc.



### Keep away

e.g.) Prohibit access, etc.

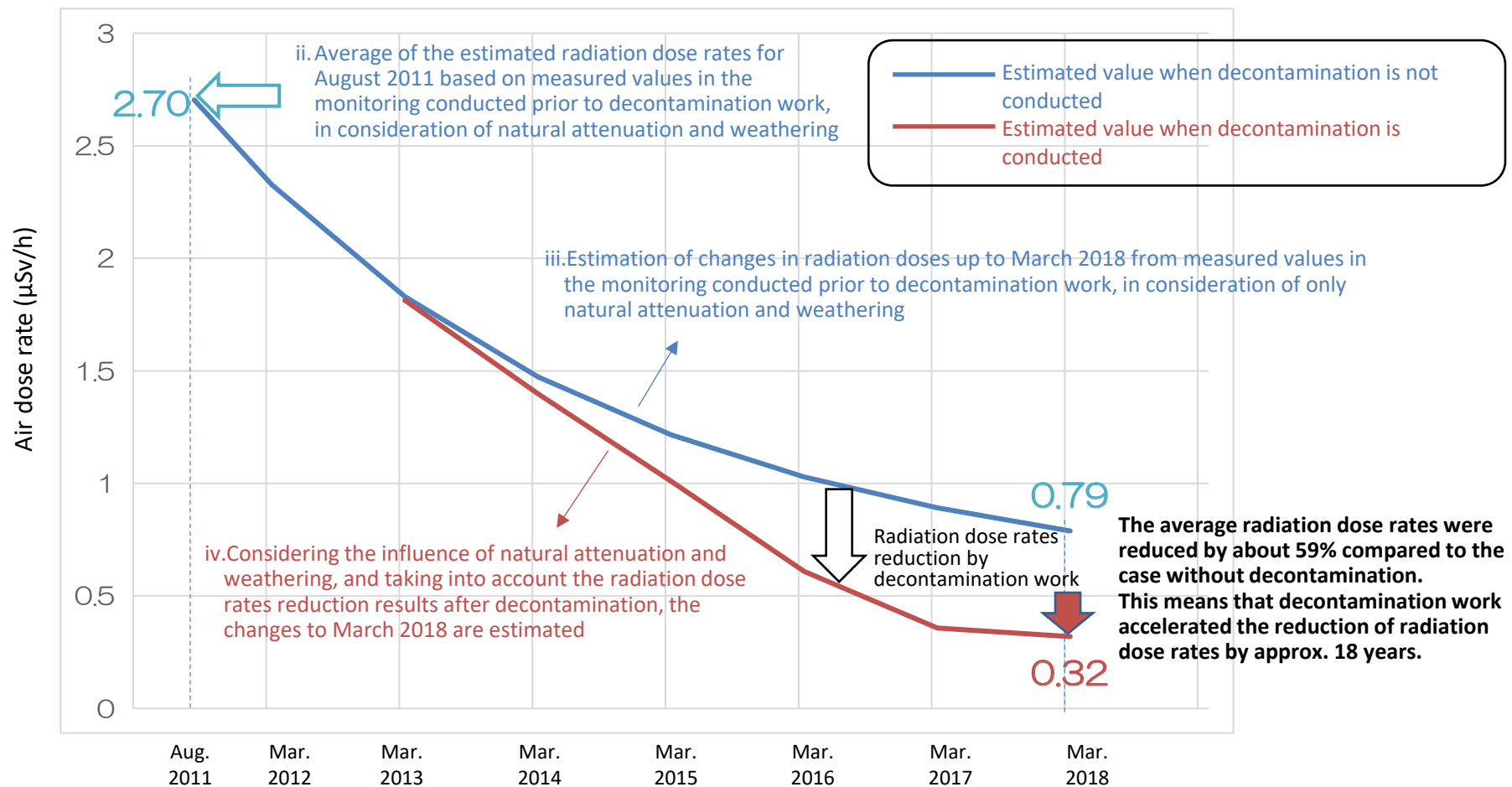


## Decontamination

# Changes in Average Radiation Dose Rates in Areas where the National Government Directly Conducted Decontamination Work (Residential Areas and Agricultural Land)

- Air radiation dose rates have been reduced approx. 18 years earlier through decontamination work, compared with a case where no measures had been taken. As a result, additional exposure doses were also reduced.
- Decontamination is the basis for the reconstruction of disaster-affected areas. The national government is committed to contributing to the reconstruction of those areas, including the lifting of evacuation orders, through an early reduction of radiation doses.

i. Estimation based on approx. 340,000 pieces of data from the results of the monitoring conducted prior to decontamination work from November 2011 to October 2016 and the results of the monitoring conducted after decontamination work from December 2011 to June 2017



Prepared by the Ministry of the Environment

# Decontamination Methods

Decontamination has been conducted in accordance with the circumstances of respective areas.

## Specific methods differ by location.

Effective methods differ depending on the status of contamination with radioactive materials. First, ambient dose rates are measured, and an optimal method is selected on a case-by-case basis. Radiation doses are measured before and after decontamination work to confirm the effects.



Case  
1

### Decontamination methods employed in areas with relatively low radiation doses

● The following are examples.



● Cleaning of eaves and gutters of private houses



● Mowing of vegetation (Provided by Date City)



● Removal of sludge from ditches  
(Provided by Fukushima City)

Case  
2

### Decontamination methods employed in areas with relatively high radiation doses (in addition to the above methods)



● Scraping off of topsoil of school yards  
(Provided by JAEA)



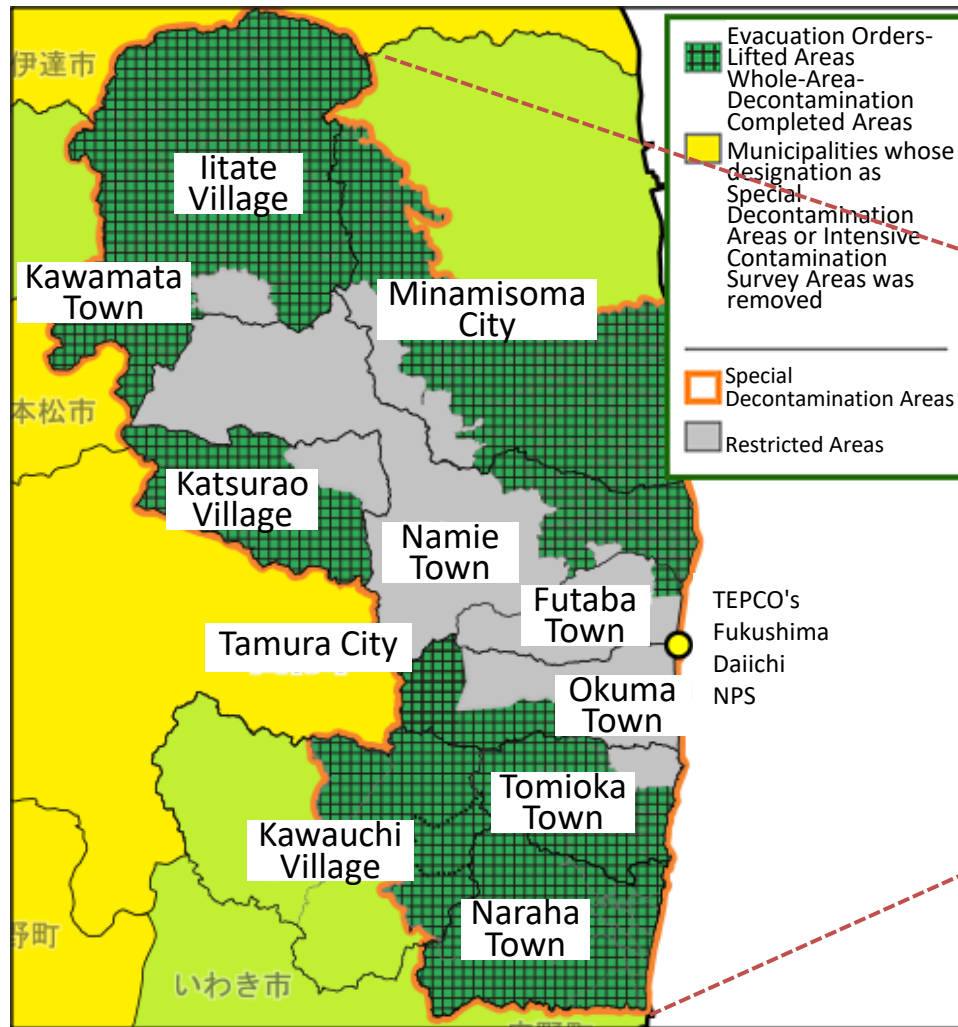
● Washing of building roofs, etc.



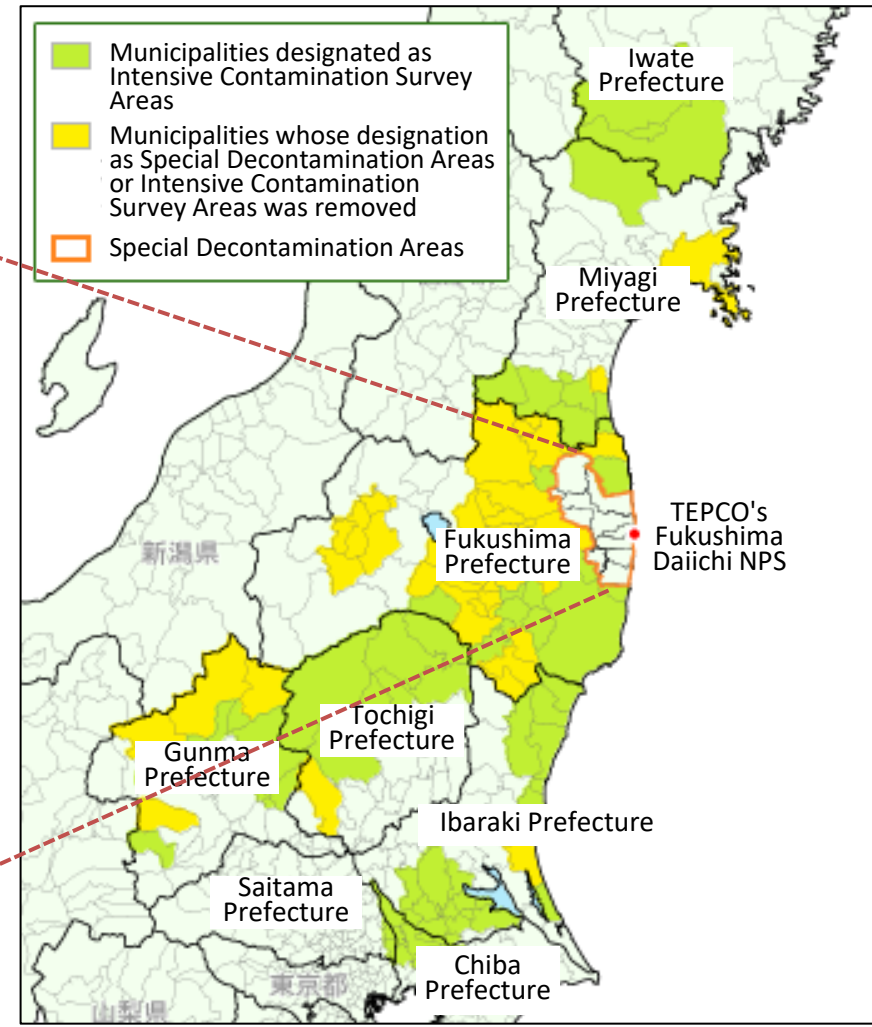
● Scraping off of garden soil, etc.  
(Provided by Date City)

# Special Decontamination Areas and Intensive Contamination Survey Areas

## Special Decontamination Areas



## Intensive Contamination Survey Areas



As of December 31, 2023



Prepared based on the website, "Environmental Remediation," of the Ministry of the Environment



# Storage in Temporary Storage Sites

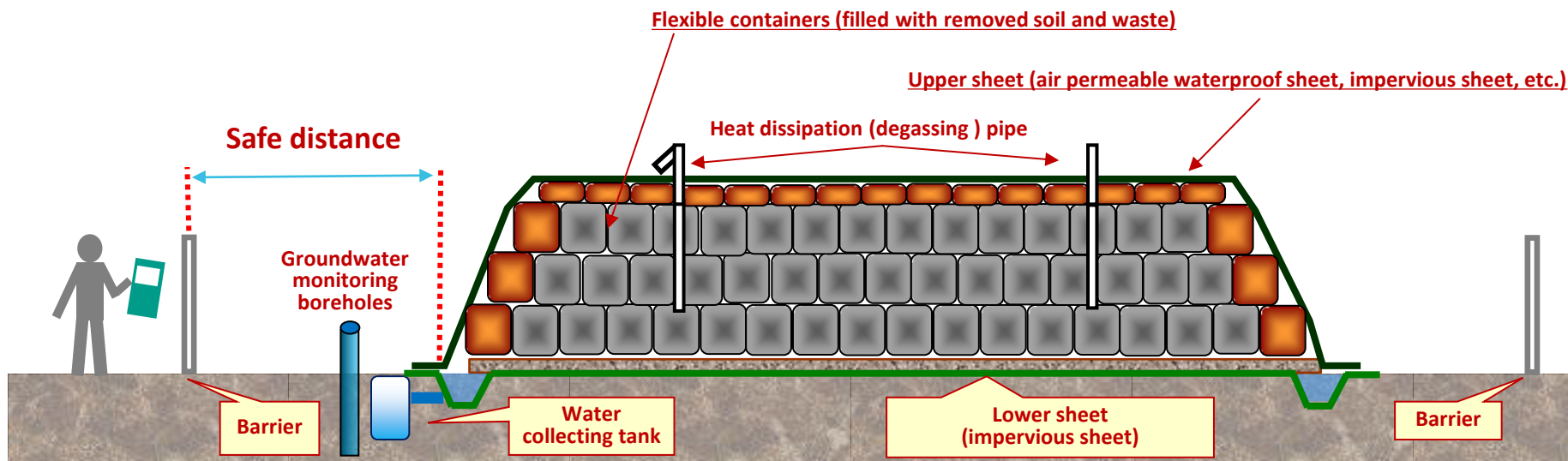
Removed soil and waste generated by decontamination is safely managed in Temporary Storage Sites

Basic structure and management/inspection of Temporary Storage Sites (example of Temporary Storage managed by the national government)

-  Storage containers filled with removed soil and waste
-  Shielding sandbags filled with non-contaminated soil

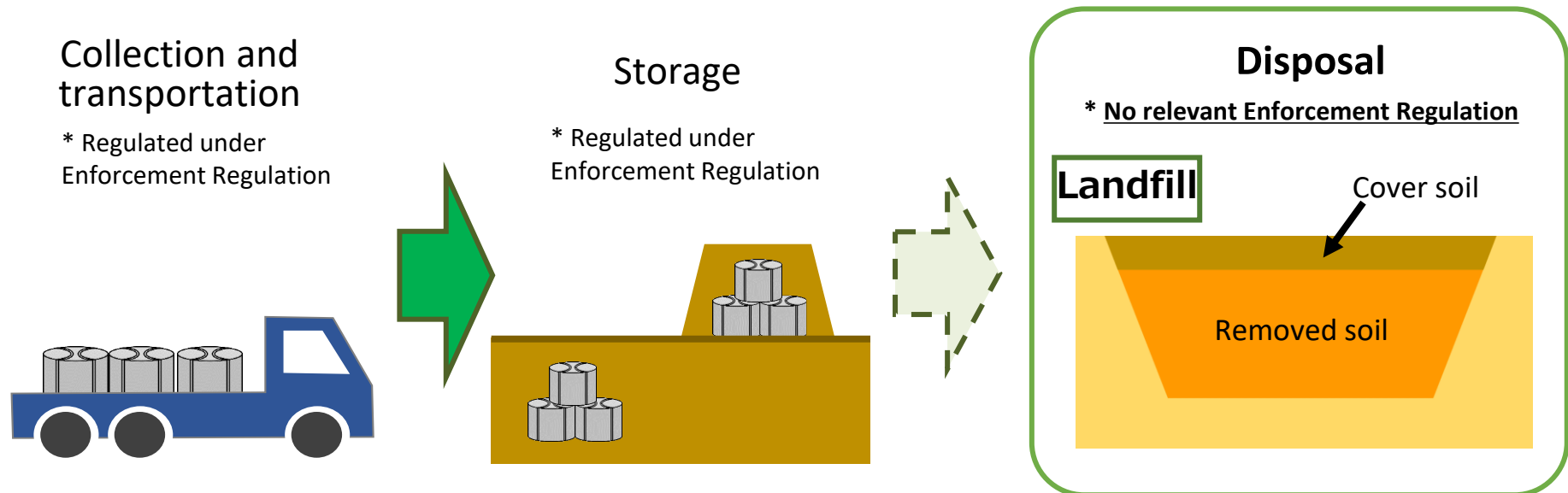


Status of storage of removed soil and waste in a Temporary Storage Site



# Status of Removed Soil Outside Fukushima Prefecture

- Removed soil outside Fukushima Prefecture has been stored safely by respective municipalities based on the storage methods regulated by the national government.
  - Municipalities are to follow the disposal methods regulated by the national government, if they collect removed soil and dispose of it by means of landfill in the future.
  - However, specific disposal methods have not been determined, and the national government is required to specify disposal methods by Enforcement Regulation.
- At present, the Study Team on Disposal of Removed Soil, which consists of intellectuals, is deliberating on disposal methods from professional standpoints. Furthermore, demonstration projects on landfill disposal have been implemented in Tokai Village in Ibaraki Prefecture, Nasu Town in Tochigi Prefecture, and Marumori Town in Miyagi Prefecture.



# Comprehensive Efforts to Restore Forests and Forestry in Fukushima

## I. Efforts toward regeneration of forests and forestry

### 1. Efforts for ensuring safe and secure living environment

- Steadily continue decontamination work for forests near people's houses, etc.
- For residential areas surrounded by forests on three sides, taking measures as necessary, such as decontaminating forests 20m or further from the border or installing barriers to prevent soil runoff

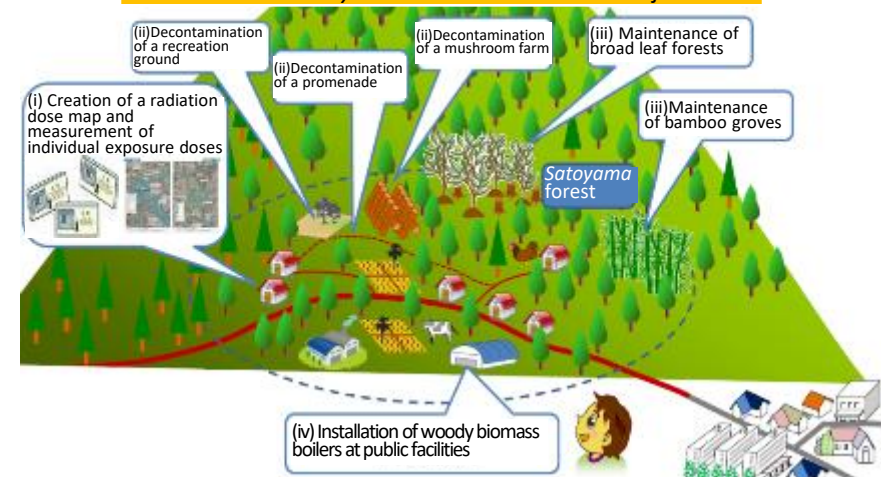
### 3. Efforts for regenerating forestry in mountainous areas, etc.

- Promote a project to conduct tree thinning or other forest maintenance work together with measures concerning radioactive materials, and a demonstration project aiming for regeneration of forestry
- Newly prepare a guidebook on radiation safety that is easy to understand for workers

### 2. Efforts for restoring *Satoyama* forests close to residential houses

- Based on needs of local people, decontamination was conducted properly at places in the forest where residents enter for recreation or daily use; Make efforts for regenerating forestry in broad leaf forests and bamboo groves, etc.
- Select model districts in and around Areas under Evacuation Orders (including areas where evacuation orders have been lifted), comprehensively promote efforts for restoring *Satoyama* forests in those model districts, and reflect the outcomes of such efforts in carrying out further appropriate measures. (\*In FY2020 onward, efforts for restoring *Satoyama* forests will be continued by expanding the coverage as the *Satoyama* Restoration Projects.)

Picture of *Satoyama* Restoration Model Projects



## II. Future-oriented efforts for research and studies

- Continuously engage in research and studies for monitoring radiation doses in the forest, understanding behavior of radioactive materials and reducing radiation doses; Continue efforts for regeneration of forests and forestry into the future while utilizing the outcomes of such research and studies in formulating further measure

## III. Information provision and communication

- Meticulously provide the latest information regarding knowledge on radioactive materials in forests and the national government's efforts toward regeneration of forests and forestry, using such media as relevant ministries' websites and PR magazines
- Continue efforts for ensuring safe and secure lives of the people in Fukushima through maintaining good communication, including dispatching experts